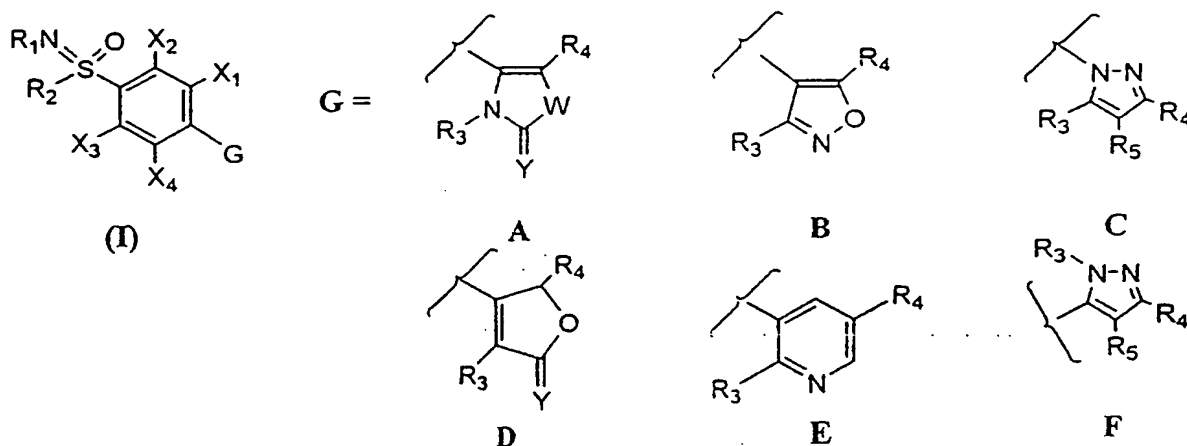


We claim:

1. A compound of formula (I) their analogs, their derivatives, their tautomers, their pharmaceutically acceptable salts, their pharmaceutically acceptable solvates and pharmaceutically acceptable compositions, wherein G represents substituted or unsubstituted, single or fused groups selected from aryl group, heteroaryl or heterocyclic groups containing one or more heteroatom selected from O, S, N; preferably, G represents the groups A, B, C, D, E & F as described below:



- 10 R_1 represents hydrogen, substituted or unsubstituted groups selected from alkyl, aralkyl, acyl, alkylsulfonyl, arylsulfonyl groups; R_2 represents alkyl, aralkyl, alkoxy or $-NHR$ where R represents hydrogen or lower alkyl groups which may be suitably substituted; X_1 , X_2 , X_3 , X_4 may be same or different and represent hydrogen, cyano, nitro, halo, carboxyl, formyl, hydrazino, azido, amino, thio, hydroxy, or substituted or unsubstituted groups selected from alkyl which may be linear or branched, alkenyl, cycloalkyl, alkoxy, cycloalkoxy, cycloalkoxyalkyl, haloalkoxy, hydroxyalkyl, alkoxyalkyl, thioalkyl, carboxyalkyl, haloalkyl, aminoalkyl, cyanoalkyl, alkylthio, alkylsulfinyl, alkylsulfonyl, alkoxycarbonylalkyl, acyl, acyloxy, acyloxyalkyl, aralkyl, aryloxy, aralkoxy, aryloxyalkyl, aralkoxyalkyl, aralkenyl, acylamino, alkylamino, dialkylamino, aralkylamino, alkoxyamino, hydroxylamino, alkoxycarbonyl, aralkoxycarbonyl groups; two adjacent groups may form a methylenedioxy or a ethylenedioxy group; when G represents heterocycle "D", then atleast one of the groups defined by X_1 , X_2 , X_3 , X_4 is not hydrogen; R_3 is selected from substituted or unsubstituted alkyl, substituted or unsubstituted, single or fused groups selected from aryl, aralkenyl, heteroaryl or heterocyclic groups; R_4 and R_5 is selected from hydrogen atom, halogen atom, carboxy,

substituted or unsubstituted groups selected from linear or branched alkyl, alkoxy carbonyl, hydroxyalkyl, alkoxyalkyl, phenyl groups; Y represents O or S; W represents O or S;

- 5 2. A compound according to claim 1, wherein the substituents on R₃ and R₄ are selected from cyano, nitro, halo, carboxyl, hydrazino, azido, formyl, amino, thio, hydroxy, ONO₂, alkyl-ONO₂ or substituted or unsubstituted groups selected from alkyl which may be linear or branched, perhaloalkyl, alkoxy, hydrazinoalkyl, alkylhydrazido, acyl, acyloxy, oxo, carboxyalkyl, haloalkyl, aminoalkyl, haloalkoxy, hydroxyalkyl, 10 alkoxyalkyl, thioalkyl, alkylthio, alkylsulfinyl, alkylsulfonyl, alkylsulfoximinyl, aryl, aralkyl, aryloxy, aralkoxy, aryloxyalkyl, aralkoxyalkyl, aryloxy carbonyl, alkoxy carbonyl, aralkoxy carbonyl, alkoxy carbonyl alkyl, amidino, carboxamidoalkyl, acylamino, cyanoamidino, cyanoalkyl, N-aminocarbonylalkyl, N-arylaminocarbonyl, carboxyalkylaminocarboxy, N-alkylamino, N,N-dialkylamino, N-aryl amino, N- 15 aralkylamino, N-alkyl-N-aralkylamino, N-alkyl-N-aryl amino, N-alkylaminoalkyl, N,N-dialkylaminoalkyl, N-aryl aminoalkyl, N-aralkylaminoalkyl, N-alkyl-N-aralkylaminoalkyl, N-alkyl-N-aryl aminoalkyl, arylthio, aralkylthio, N-alkylaminosulfonyl, N-arylaminosulfonyl, arylsulfonyl, N,N-dialkylaminosulfonyl, N-alkyl-N-arylaminosulfonyl, alkoxy carbonyl, aminocarbonyl, cycloalkyl, heterocyclic, 20 heterocyclic alkyl, heteroaryl, heteroaralkyl, heteroaralkoxy, sulfamyl groups; two adjacent groups may form a methylenedioxy or a ethylenedioxy group.

3. A compound as claimed in claim 1 where suitable substituents on X₁, X₂, X₃, X₄ are selected from cyano, nitro, halo, carboxyl, hydrazino, azido, formyl, amino, thio, 25 hydroxy or substituted or unsubstituted groups selected from alkyl which may be linear or branched, alkoxy, alkoxy carbonyl, acyl, acylamino, acyloxy, hydrazinoalkyl, alkylhydrazido, carboxyalkyl, haloalkyl, aminoalkyl, haloalkoxy, hydroxyalkyl, alkoxyalkyl, thioalkyl, alkylthio, alkylsulfinyl, alkylsulfonyl, aryl, aralkyl, aryloxy, aralkoxy, aryloxyalkyl, aralkoxyalkyl, alkoxy carbonyl, amidino groups.

30

4. A compound according to claim 1, wherein the pharmaceutically acceptable salts are salts of tartaric acid, mandelic acid, fumaric acid, malic acid, lactic acid, maleic acid, salicylic acid, citric acid, ascorbic acid, benzene sulfonic acid, p-toluene sulfonic

acid, hydroxynaphthoic acid, methane sulfonic acid, acetic acid, benzoic acid, succinic acid, palmitic acid, hydrochloric acid, hydrobromic acid, sulfuric acid & nitric acid.

- 5 5. A pharmaceutical composition comprising compounds as claimed in Claim 1 or a pharmaceutically-acceptable salt thereof and a pharmaceutically acceptable carrier, diluent, excipients or solvate.
6. A pharmaceutical composition according to claim 1, in the form of a tablet, capsule, powder, granule, syrup, solution or suspension.
7. A pharmaceutical composition which comprises, a compound according to claim 4,
10 as an active ingredient and a pharmaceutically acceptable carrier, diluent, excipients or solvate.
8. A pharmaceutical composition which comprises, a compound according to claim 4, in the form of a tablet, capsule, powder, granule, syrup, solution or suspension.
9. A method of treating inflammation or an inflammation-associated disorder in a
15 subject, said method comprising treating the subject having or susceptible to such disorder with a therapeutically-effective amount of compound of claim 1 or a pharmaceutically acceptable salt thereof.
10. The method as claimed in claim 9 wherein the compound is administered orally, nasally, parenterally, topically, transdermally, or rectally.
- 20 11. A method of treating inflammation or an inflammation-associated disorder in a subject, said method comprising treating the subject having or susceptible to such disorder with a therapeutically-effective amount of compound of claim 4.
12. The method as claimed in claim 11 wherein the compound is administered orally, nasally, parenterally, topically, transdermally, or rectally.
- 25 13. A compound according to claim 1 which is selected from
 - 5-(4-Fluorophenyl)-1-(4-methylsulfoximinyphenyl)-3-trifluoromethyl-1H-pyrazole
 - 5-(4-Chlorophenyl)-1-(4-methylsulfoximinyphenyl)-3-trifluoromethyl-1H-pyrazole
 - 5-(4-Methylphenyl)-1-(4-methylsulfoximinyphenyl)-3-trifluoromethyl-1H-pyrazole
 - 5-(4-Methoxyphenyl)-1-(4-methylsulfoximinyphenyl)-3-trifluoromethyl-1H-pyrazole
 - 30 1-(4-methylsulfoximinyphenyl)-5-(4-*n*-propoxyphenyl)-3-trifluoromethyl-1H-pyrazole
 - 5-(4-Ethoxyphenyl)-1-(4-methylsulfoximinyphenyl)-3-trifluoromethyl-1H-pyrazole
 - 5-(4-Hydroxyphenyl)-1-(4-methylsulfoximinyphenyl)-3-trifluoromethyl-1H-pyrazole
 - 5-(3-Chloro-4-fluorophenyl)-1-(4-methylsulfoximinyphenyl)-3-trifluoromethyl-1H-pyrazole

- 5-(3,4-Difluorophenyl)-1-(4-methylsulfoximinylphenyl)-3-trifluoromethyl-1H-pyrazole
- 5-(4-Fluoro-3-methylphenyl)-1-(4-methylsulfoximinylphenyl)-3-trifluoromethyl-1H-pyrazole
- 5-(4-Methoxy-3-methylphenyl)-1-(4-methylsulfoximinylphenyl)-3-trifluoromethyl-1H-pyrazole
- 5-(3-Chloro-4-methoxyphenyl)-1-(4-methylsulfoximinylphenyl)-3-trifluoromethyl-1H-pyrazole
- 5-(3-Bromo-4-methoxyphenyl)-1-(4-methylsulfoximinylphenyl)-3-trifluoromethyl-1H-pyrazole
- 10 5-(3-Fluoro-4-methoxyphenyl)-1-(4-methylsulfoximinylphenyl)-3-trifluoromethyl-1H-pyrazole
- 5-(3-Methoxy-4-methylphenyl)-1-(4-methylsulfoximinylphenyl)-3-trifluoromethyl-1H-pyrazole
- 1-(2-Fluoro-4-methylsulfoximinylphenyl)-5-(4-Methoxyphenyl)-3-trifluoromethyl-1H-pyrazole
- 15 1-(3-Fluoro-4-methylsulfoximinylphenyl)-5-(4-Methoxyphenyl)-3-trifluoromethyl-1H-pyrazole
- 1-(4-Methylsulfoximinylphenyl)-5-phenyl-3-trifluoromethyl-1H-pyrazole
- 1-(4-Methylsulfoximinylphenyl)-5-(1-naphthyl)-3-trifluoromethyl-1H-pyrazole
- 20 5-(4-Methoxyphenyl)-3-methyl-1-(4-methylsulfoximinylphenyl)-1H-pyrazole
- 1-(4-Methylsulfoximinylphenyl)-5-(4-nitrophenyl)-3-trifluoromethyl-1H-pyrazole
- 5-(3-Methoxyphenyl)-1-(4-methylsulfoximinylphenyl)-3-trifluoromethyl-1H-pyrazole
- 5-(3,5-Difluoro-4-Methoxyphenyl)-1-(4-methylsulfoximinylphenyl)-3-trifluoromethyl-1H-pyrazole
- 25 5-(3-Hydroxy-4-methoxyphenyl)-1-(4-methylsulfoximinylphenyl)-3-trifluoromethyl-1H-pyrazole
- 5-(4-Methoxyphenyl)-1-(4-methylsulfoximinylphenyl)-1H-pyrazole-3-carboxylic acid
- 3-(Hydroxymethyl)-5-(4-Methoxyphenyl)-1-(4-methylsulfoximinylphenyl)-1H-pyrazole
- 5-(4-Methoxyphenyl)-1-(4-methylsulfoximinylphenyl)-1H-pyrazol-3-ylmethylhydrogen sulphate
- 30 5-{4-(2-Hydroxy-ethoxy)phenyl}-1-(4-methylsulfoximinylphenyl)-3-trifluoromethyl-1H-pyrazole
- 1-(4-Methylsulfoximinylphenyl)-5-(4-pyridyl)-3-trifluoromethyl-1H-pyrazole

- 1-(4-Methylsulfoximinylphenyl)-5-(3-pyridyl)-3-trifluoromethyl-1H-pyrazole
 1-(4-Methylsulfoximinylphenyl)-5-(2-pyridyl)-3-trifluoromethyl-1H-pyrazole
 5-(4-Isopropoxyphenyl)-1-(4-methylsulfoximinylphenyl)-3-trifluoromethyl-1H-pyrazole
 1-(4-Methylsulfoximinylphenyl)-5-(2-thiophenyl)-3-trifluoromethyl-1H-pyrazole
 5 5-(4-Methylsulfoximinylphenyl)-1-phenyl-3-trifluoromethyl-1H-pyrazole.
 1-(4-Methoxyphenyl)-5-(4-methylsulfoximinylphenyl)-3-trifluoromethyl-1H-pyrazole
 5-Ethyl-4-(4-methylsulfoximinylphenyl)-3-phenyl-isoxazole
 5-Methoxymethyl-4-(4-methylsulfoximinylphenyl)-3-phenyl-isoxazole
 3-(4-Fluorophenyl)-5-methyl-4-(4-methylsulfoximinylphenyl)-isoxazole
 10 3-(4-Chlorophenyl)-5-methyl-4-(4-methylsulfoximinylphenyl)-isoxazole
 3-Ethyl-4-(4-methylsulfoximinylphenyl)-5-phenyl-isoxazole
 5-Chloro-4-(4-methylsulfoximinylphenyl)-3-phenyl-isoxazole
 5-Methyl-4-(4-methylsulfoximinylphenyl)-3-phenyl-isoxazole
 3-(4-Methoxyphenyl)-5-methyl-4-(4-methylsulfoximinylphenyl)-isoxazole
 15 3-(3,4-Dichlorophenyl)-4-(3-fluoro-4-methylsulfoximinylphenyl)-5H-furan-2-one
 3-(4-Chlorophenyl)-4-(3-fluoro-4-methylsulfoximinylphenyl)-5H-furan-2-one
 3-Phenyl-4-(3-fluoro-4-methylsulfoximinylphenyl)-5H-furan-2-one
 3-(3,4-Difluorophenyl)-4-(3-fluoro-4-methylsulfoximinylphenyl)-5H-furan-2-one
 3-(3,4-Dimethoxyphenyl)-4-(3-fluoro-4-methylsulfoximinylphenyl)-5H-furan-2-one
 20 3-(4-Methoxyphenyl)-4-(3-fluoro-4-methylsulfoximinylphenyl)-5H-furan-2-one
 3-(4-Methylphenyl)-4-(3-fluoro-4-methylsulfoximinylphenyl)-5H-furan-2-one
 5-Chloro-3-(4-methylsulfoximinylphenyl)-6'-methyl-[2,3']bipyridinyl
 5-Chloro-3-(4-methylsulfoximinylphenyl)-[2,3']bipyridinyl
 3-(3-Fluorophenyl)-4-(4-methylsulfoximinylphenyl)-3H-thiazol-2-one
 25 3-(3,4-Dichlorophenyl)-4-(4-methylsulfoximinylphenyl)-3H-oxazol-2-one
 3-(3,4-Dichlorophenyl)-4-(4-methylsulfoximinylphenyl)-3H-thiazol-2-one
 3-(2-Fluorophenyl)-4-(4-methylsulfoximinylphenyl)-3H-oxazol-2-one
 3-(4-Bromophenyl)-4-(4-methylsulfoximinylphenyl)-3H-oxazol-2-one
 4-(4-Methylsulfoximinylphenyl)-3-phenyl-3H-oxazol-2-one
 30 3-(3,4-Dichlorophenyl)-4-[4-(N-chloroacetyl)methylsulfoximinyl-phenyl]-3H-oxazol-2-one
 one
 3-(3,4-Dichlorophenyl)-4-[4-(N-acetyl)methylsulfoximinyl-phenyl]-3H-oxazol-2-one

3-(3,4-Dichlorophenyl)-4-[4-(N-methylsulfonyl)methylsulfoximiny-phenyl]-3H-oxazol-2-one

5 3-(3,4-Dichlorophenyl)-4-[4-{N-(4-methylphenyl)sulfonyl}-methylsulfoximiny-phenyl]-3H-oxazol-2-one

14. A compound according to claim 13, wherein the pharmaceutically acceptable salts are salts of tartaric acid, mandelic acid, fumaric acid, malic acid, lactic acid, maleic acid, salicylic acid, citric acid, ascorbic acid, benzene sulfonic acid, p-toluene
10 sulfonic acid, hydroxynaphthoic acid, methane sulfonic acid, acetic acid, benzoic acid, succinic acid, palmitic acid, hydrochloric acid, hydrobromic acid, sulfuric acid & nitric acid.

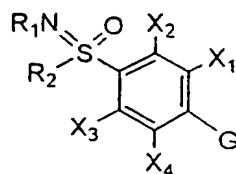
15. A pharmaceutical composition, which comprises a compound as defined in claims 13 & 14, and a pharmaceutically acceptable carrier, diluents or excipients or solvate.

15 16. A pharmaceutical composition as claimed in claim 15, in the form of a tablet, capsule, powder, granules, syrup, solution or suspension.

17. A method of treating inflammation or an inflammation-associated disorder in a subject, said method comprising treating the subject having or susceptible to such disorder with a therapeutically-effective amount of compound of claims 13-16 or a
20 pharmaceutically acceptable salt thereof.

18. Use of compounds or pharmaceutically acceptable salts thereof of the present invention, as defined in any of the preceding claims for the treatment of inflammation or inflammation-mediated diseases.

19. A process for the preparation of compounds of formula (I),



(I)

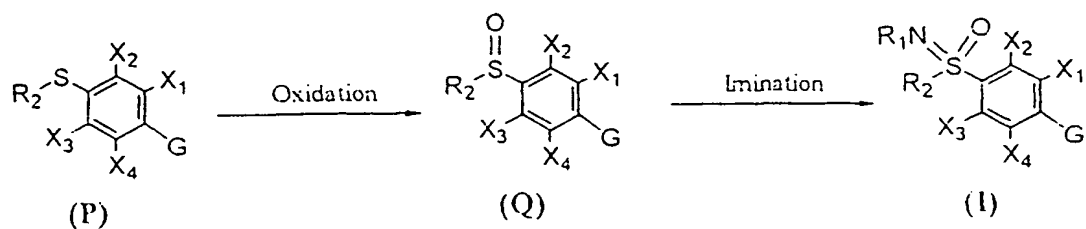
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Where G represents substituted or unsubstituted, single or fused groups selected from aryl group, heteroaryl or heterocyclic groups containing one or more heteroatom selected from O, S, N; R₁ represents hydrogen, substituted or unsubstituted groups selected from

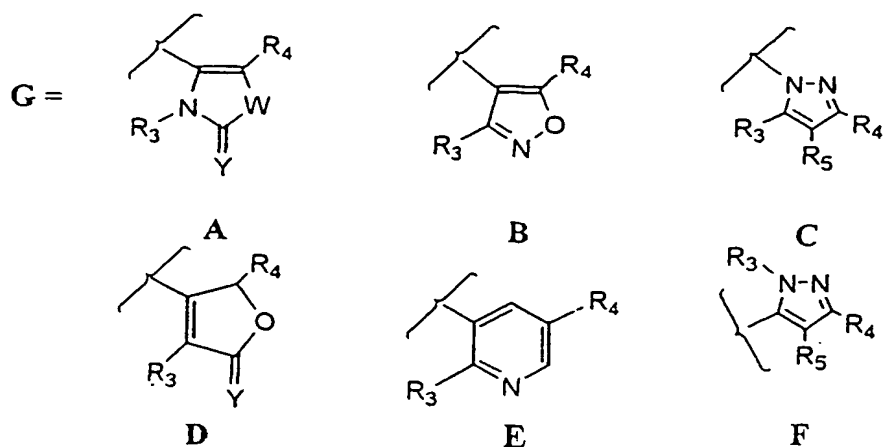
alkyl, aralkyl, acyl, alkylsulfonyl, arylsulfonyl groups; R_2 represents alkyl, aralkyl, or -NHR or -OR where R represents hydrogen or lower alkyl groups which may be suitably substituted;

X_1, X_2, X_3, X_4 may be same or different and represent hydrogen, cyano, nitro, halo, carboxyl, formyl, hydrazino, azido, amino, thio, hydroxy, or substituted or unsubstituted groups selected from alkyl which may be linear or branched, alkenyl, oximealkyl, alkoxy, haloalkoxy, hydroxyalkyl, alkoxyalkyl, thioalkyl, carboxyalkyl, haloalkyl, aminoalkyl, cyanoalkyl, alkylthio, alkylsulfinyl, alkylsulfonyl, alkoxycarbonylalkyl, acyl, acyloxy, acyloxyalkyl, aralkyl, aryloxy, aralkoxy, aryloxyalkyl, aralkoxyalkyl, aralkenyl, acylamino, alkylamino, dialkylamino, aralkylamino, alkoxyamino, hydroxylamino, alkoxycarbonyl, aralkoxycarbonyl groups; two adjacent groups may form a methylenedioxy or a ethylenedioxy group; R_3 is selected from substituted or unsubstituted alkyl, substituted or unsubstituted, single or fused groups selected from aryl, heteroaryl or heterocyclic groups; R_4 and R_5 is selected from hydrogen atom, halogen atom, carboxy, substituted or unsubstituted groups selected from linear or branched alkyl, alkoxycarbonyl, hydroxyalkyl, alkoxyalkyl, phenyl groups; Y represents O or S; W represents O or S;

said process comprising oxidizing a compound of formula (P) to get a compound of formula (Q) which is iminated with suitable reagents to get compound of formula (I) which may further be converted to their pharmaceutically acceptable salts, if desired.

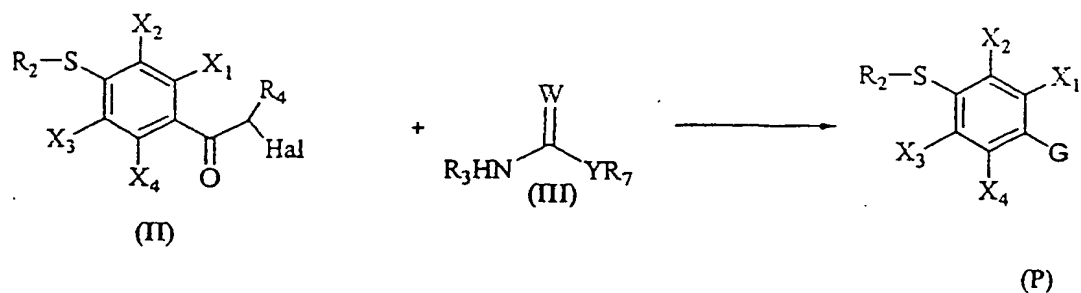


20. The process as claimed in claim 19, where the groups representing G are preferably selected from A, B, C, D, E & F as described below, and all other symbols are as defined earlier.

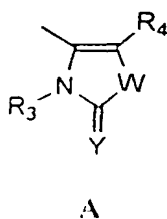


21. A process for preparing compound of general formula (P) as defined in claims 19 & 20, which comprises:

- i. reacting haloketone of formula II with compound III to obtain mercapto compound of formula (P),



where G represents

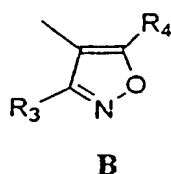


and all other symbols are as defined earlier.

- ii. converting the oxime of formula VII to mercapto compound of formula (P),

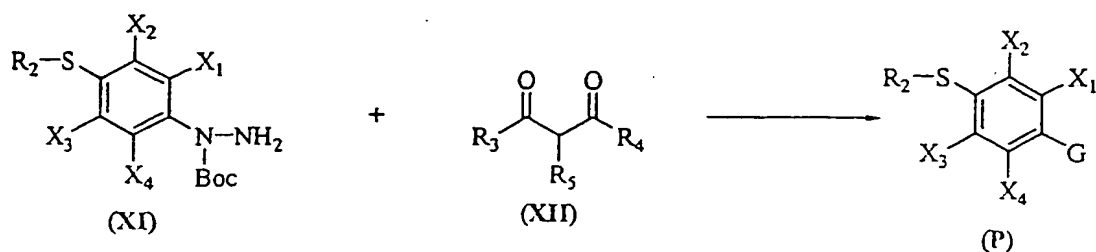


- 5 where G represents

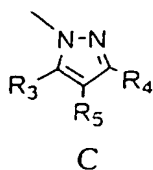


and all other symbols are as defined earlier;

- 10 iii. reacting the hydrazine of formula XI with 1,3-diketone of formula XII to form the mercapto compound of formula (P),

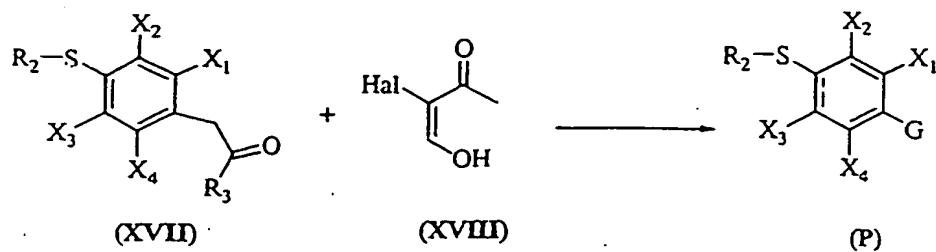


- 15 where G represents

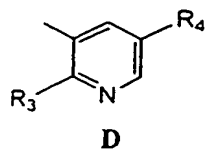


and all other symbols are as defined earlier.

- iv. reacting compound of formula XVII with compound of formula XVIII to get
20 mercapto compound of formula (P),



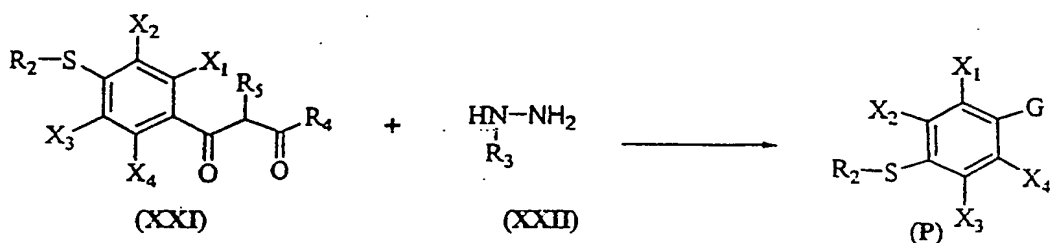
where G represents



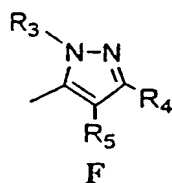
and all other symbols are as defined earlier;

5

v. reacting compound of formula XXI with compound of formula XXII to get mercapto compound of formula (P),



10 where G represents



and all other symbols are as defined earlier.

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